

AMENDMENTS TO THE CLAIMS

1. (Original) A process for the extractive removal of optionally substituted phenol, 3-hydroxypyrazole, 2-hydroxypyridine, hydroquinone, resorcinol, catechol; C₁-C₂₀-alcohol, glycol, glycerol, optionally substituted aniline, N-C₁-C₂₀-alkylamine, N,N-di-C₁-C₂₀-alkylamine, P-C₁-C₂₀-alkylphosphine, P,P-di-C₁-C₂₀-alkylphosphine, phenylphosphine, diphenylphosphine, hydrazine, hydroxylamine, sulfonic acid, sulfinic acid, phosphoric acid, carboxylic acid or amino acid from aprotic solvents by means of ionic liquids of the formula $[K]_n^+[A]^{n-}$,

where

n is 1, 2 or 3;

[K]⁺ is selected from the group consisting of:

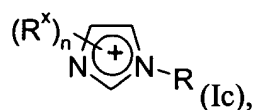
- quaternary ammonium cations of the formula $[NR^1, R^2, R^3, R^4]^+$ (Ia),
- quaternary phosphonium cations of the formula $[PR^1, R^2, R^3, R^4]^+$ (Ib),

where

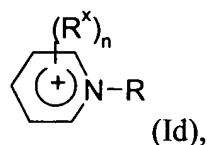
R¹, R², R³, R⁴ are each C₁-C₁₂-alkyl or phenyl-C₁-C₄-alkyl, where the aliphatic radicals may bear from 1 to 4 substituents selected from the group consisting of halogen, amino, cyano, C₁-C₄-alkoxy and the phenyl ring may bear the abovementioned substituents and also C₁-C₆-alkyl, carboxylate and sulfonate groups;

R^1 and R^2 may together form a C_4 - C_5 -alkenylene radical which may be substituted by C_1 - C_4 -alkyl, halogen, cyano or C_1 - C_4 -alkoxy;

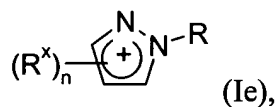
- imidazolium cations of the formula,



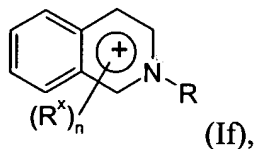
- pyridinium cations of the formula,



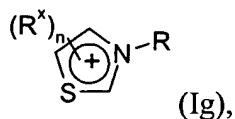
- pyrazolium cations of the formula,



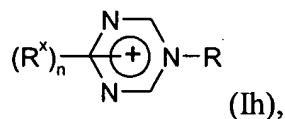
- quinolinium cations of the formula,



- thiazolium cations of the formula,



- triazinium cations of the formula,



where the index n and the substituents R and R^x have the following meanings:

n is 0, 1, 2, 3 or 4;

R is hydrogen, C_1 - C_{12} -alkyl or phenyl- C_1 - C_4 -alkyl,

where the aliphatic radicals may bear from 1 to 4 substituents selected from the group consisting of halogen, amino, cyano, C_1 - C_4 -alkoxy and the phenyl ring may bear the abovementioned substituents and also C_1 - C_6 -alkyl, carboxylate and sulfonate groups;

R^x is C_1 - C_6 -alkyl, halogen, amino, cyano, C_1 - C_4 -alkoxy, carboxylate or sulfonate;

$[A]^{n-}$ is the partly or fully deprotonated anion of an inorganic or organic protic acid H_nA

(III), where n is a positive integer and indicates the charge on the anion.

2. (Original) The process according to claim 1, wherein the organic compound to be extracted is a phenol or alcohol.

3. (Currently Amended) The process according to claim 1 ~~or 2~~, wherein the aprotic solvent is a hydrocarbon.
4. (Currently Amended) The process according to ~~any of claims 1 to 3~~ claim 1, wherein the hydrocarbon is an alkane or halogenated alkane.
5. (Currently Amended) The process according to ~~any of claims 1 to 3~~ claim 1, wherein the hydrocarbon is an arene which is optionally substituted by halogen, nitro, cyano, C₁-C₃-alkyl, C₁-C₃-alkoxy or methoxycarbonyl.
6. (Currently Amended) The process according to ~~any of claims 1 to 5~~ claim 1, wherein the ionic liquid is an ammonium or imidazolium salt or a mixture of these salts.
7. (Currently Amended) The process according to ~~any of claims 1 to 6~~ claim 1, wherein the ionic liquid is a sulfate or hydrogensulfate.
8. (Currently Amended) The process according to claim 1, ~~6 or 7~~, wherein a phenol is removed from chlorobenzene.
9. (Currently Amended) The process according to ~~any of claims 1 to 8~~ claim 1, wherein the extracted impurity is separated off from the ionic liquid by distillation.

10. (Currently Amended) The process according to ~~any of claims 1 to 8~~ claim 1, wherein the extracted impurity is separated off from the ionic liquid by reextraction.
11. (New) The process according to claim 2, wherein the aprotic solvent is a hydrocarbon.
12. (New) The process according to claim 2, wherein the hydrocarbon is an alkane or halogenated alkane.
13. (New) The process according to claim 3, wherein the hydrocarbon is an alkane or halogenated alkane.
14. (New) The process according to claim 2, wherein the hydrocarbon is an arene which is optionally substituted by halogen, nitro, cyano, C₁-C₃-alkyl, C₁-C₃-alkoxy or methoxycarbonyl.
15. (New) The process according to claim 3, wherein the hydrocarbon is an arene which is optionally substituted by halogen, nitro, cyano, C₁-C₃-alkyl, C₁-C₃-alkoxy or methoxycarbonyl.
16. (New) The process according to claim 2, wherein the ionic liquid is an ammonium or imidazolium salt or a mixture of these salts.

17. (New) The process according to claim 3, wherein the ionic liquid is an ammonium or imidazolium salt or a mixture of these salts.
18. (New) The process according to claim 4, wherein the ionic liquid is an ammonium or imidazolium salt or a mixture of these salts.
19. (New) The process according to claim 5, wherein the ionic liquid is an ammonium or imidazolium salt or a mixture of these salts.
20. (New) The process according to claim 2, wherein the ionic liquid is a sulfate or hydrogensulfate.